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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,721	02/09/2004	Ralf Jockers	FRAV2003/0005USNP	9535

5487 7590 02/09/2007

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EXAMINER	
WOLLENBERGER, LOUIS V	
ART UNIT	**PAPER NUMBER**
1635	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/774,721	JOCKERS ET AL.	
	Examiner	Art Unit	
	Louis V. Wollenberger	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-17 and 45-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-17 and 45-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/21/06; 1/2/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of Application/Amendment/Claims

Applicant's response filed 12/21/06 has been considered. Rejections and/or objections not reiterated from the previous office action mailed 6/28/06 are hereby withdrawn. The following rejections and/or objections are either newly applied or are reiterated and are the only rejections and/or objections presently applied to the instant application.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

With entry of the amendment filed on 12/21/06, claims 12–17 and 45–48 are pending and currently under examination.

Response to Amendment

The amendment to the claims filed on 12/21/06 does not comply with the requirements of 37 CFR 1.121(c) because of a *failure to provide a marked up version of the amended claim.* Amendments to the claims filed on or after July 30, 2003 must comply with 37 CFR 1.121(c) which states:

> (c) *Claims*. Amendments to a claim must be made by rewriting the entire claim with all changes (*e.g.*, additions and deletions) as indicated in this subsection, except when the claim is being canceled. Each amendment document that includes a change to an existing claim, cancellation of an existing claim or addition of a new claim, must include a complete listing of all claims ever presented, including the text of all pending and withdrawn claims, in the application. The claim listing, including the text of the claims, in the amendment document will serve to replace all prior versions of the claims, in the application. In the claim listing, the status of every claim must be indicated after its claim number by using one of the following identifiers in a parenthetical expression: (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New), and (Not entered).
>
> (1) *Claim listing.* All of the claims presented in a claim listing shall be presented in ascending numerical order. Consecutive claims having the same status of "canceled" or "not entered" may be aggregated into one statement (*e.g.*, Claims 1–5 (canceled)). The claim listing shall commence on a separate sheet of the amendment

document and the sheet(s) that contain the text of any part of the claims shall not contain any other part of the amendment.

(2) *When claim text with markings is required.* All claims being currently amended in an amendment paper shall be presented in the claim listing, indicate a status of "currently amended," and be submitted with markings to indicate the changes that have been made relative to the immediate prior version of the claims. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. Only claims having the status of "currently amended," or "withdrawn" if also being amended, shall include markings. If a withdrawn claim is currently amended, its status in the claim listing may be identified as "withdrawn—currently amended."

(3) *When claim text in clean version is required.* The text of all pending claims not being currently amended shall be presented in the claim listing in clean version, *i.e.*, without any markings in the presentation of text. The presentation of a clean version of any claim having the status of "original," "withdrawn" or "previously presented" will constitute an assertion that it has not been changed relative to the immediate prior version, except to omit markings that may have been present in the immediate prior version of the claims of the status of "withdrawn" or "previously presented." Any claim added by amendment must be indicated with the status of "new" and presented in clean version, *i.e.*, without any underlining.

(4) *When claim text shall not be presented; canceling a claim.*

(i) No claim text shall be presented for any claim in the claim listing with the status of "canceled" or "not entered."

(ii) Cancellation of a claim shall be effected by an instruction to cancel a particular claim number. Identifying the status of a claim in the claim listing as "canceled" will constitute an instruction to cancel the claim.

(5) *Reinstatement of previously canceled claim.* A claim which was previously canceled may be reinstated only by adding the claim as a "new" claim with a new claim number.

In the instant case, Claim 15, as presented on 12/21/06, recites "A cell containing a vector as claimed in either of claims 13 and 14." No underlining or strikethroughs are present in the claim and the status identifier is listed as (previously presented). However, in the claim set presented on 3/10/06, upon which the previous Action was based, 15 read as "A cell containing a vector as claimed in ~~either of claims~~ claim ~~13 and~~ 14." Accordingly, Applicant has reinstated text previously stricken without indicating such by underlining or by changing the status identifier.

Correction is required.

In the interest of compact prosecution, Claim 15 is examined herein as presented on 12/21/06.

Claim Objections—withdrawn

The objection to Claim 12 because of an informality is withdrawn in view of Applicant's amendment to the claim.

Claim Objections—new

Claims 15, 46, and 48 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim *cannot depend from any other multiple dependent claim* and *should refer to other claims in the alternative only.* See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits. In the instant case, claim 15, as presented on 12/21/06, refers to claims 13 and 14. Claim 14 refers to claims 12 or 13.

Correction is required.

***

Claim 13, 14, 16, 17, 45, and 47 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

In the instant case, claim 13 recites "The oligonucleotide" of claim 12, "which is a double-stranded RNA." Assuming that "The oligonucleotide" refers to the "interfering ribonucleic acid (iRNA)" of claim 12, and given that interfering RNA is recognized in the art to be a double-stranded RNA that guides RISC-mediated degradation of complementary mRNA, it is unclear how the recitation "which is double-stranded RNA" in claim 13 further limits the iRNA of claim 12. Dependent claims 14, 16, 17, 45, and 47 are objected to therefor.

Clarification and/or correction is requested.

Claim Rejections - 35 USC § 112—new

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13, 14, 16, 17, 45, and 47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "The oligonucleotide." There is insufficient antecedent basis for this limitation in the claim. Applicant will note that the amendment to claim 12, filed 12/21/06, removed the antecedent basis. Claims 14, 16, and 17 also refer to "an oligonucleotide," for which no antecedent basis is found. Dependent claims 45 and 47 are rejected therefor.

Claim Rejections - 35 USC § 112—maintained

Claims 16, 17, and 45–48 remain rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Response to Arguments

Applicants argue that delivery and toxicity are cited as issues in the instant rejection, and that toxicity is not a proper basis for rejection. With respect to delivery, Applicants argue that

delivery issues could be addressed and obviated, and that the state of the art had produced methods for delivering RNA molecules to intended sites. Applicants argue that references speaking to the delivery of antisense oligonucleotides and delivery to T-lymphocytes are irrelevant to the claimed invention.

Applicant's arguments filed 12/21/06 have been fully considered but they are not persuasive.

MPEP 2164.01 states in part that "Any analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention…without undue experimentation."

MPEP 2164.01(a) states in part that "A conclusion of lack of enablement means that, based on the evidence regarding each of the above factors, the specification, at the time the application was filed, would not have taught one skilled in the art how to make and/or use the full scope of the claimed invention without undue experimentation. *In re Wright*, 999 F.2d 1557,1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993)."

MPEP 2164.03 states in part that "The amount of guidance or direction needed to enable the invention is inversely related to the amount of knowledge in the state of the art as well as the predictability in the art. *In re Fisher*, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970)."

In the instant case, the rejection for lack of enablement is based on the lack of predictability in the art for delivering an antisense oligonucleotide, ribozyme, or siRNA to cells and tissues *in vivo* in an amount effective to produce a desired pharmacological or medicinal

effect. The issues are delivery, uptake, and activity, not toxicity. While some of the quotations cited in the Action speak to toxicity, these are side issues not considered by the Office, and do not form the basis for this rejection. The basis for this rejection is delivery.

While it may be true that isolated cases in the prior art document successful delivery of specific siRNAs using specific modes of delivery to specific cells and tissues, these reports are drawn to isolated instances of delivering specific siRNAs and do not adequately represent the full scope of the intended utilities of iRNAs, cells, and vectors now claimed for using treating virtually all leptin-related diseases, as described at page 11 of the application. Furthermore, page 1 states that leptin is also involved in the regulation of bone mass, angiogenesis, cicatrization, thrombus formation, sexual maturation, hematopoiesis, the regulation of immunity and inflammation, fetal development and cancer.

While the prior art documents cases of successful delivery, the prior art suggests a substantial degree of unpredictability. This holds true for nucleic acid therapy in general, including antisense and RNAi technologies. The isolated citations presented in the Action serve merely as indications of the unpredictability in the art and are not an exhaustive list. Thus, T-lymphocytes or not, the evidence suggests that delivery and uptake in therapeutic amounts is a significant challenge.

The specification must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation. In the instant case the disclosure is not commensurate with the scope of protection sought by the claims. Accordingly, one of skill would be required to engage in undue experimentation to use the full scope of the invention now

claimed to treat any leptin-related disease in any cell in any animal as specifically contemplated by the specification.

Thus, considering the breadth of the claims, the state of the art at the time of filing, the level of unpredictability in the art, and the limited guidance and working examples provided by the instant application, the Examiner submits that the skilled artisan would be required to conduct undue, trial and error experimentation to use the claimed invention commensurate with the claims scope.

Accordingly, the instant claims remain rejected for failing to comply with the enablement requirement. Removing the "pharmaceutical," "medicinal," and "pharmaceutically active amount" language from the instant claims would overcome this rejection.

***

The rejection of Claim 42 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention is rendered moot by Applicants' cancellation of claim 42.

***

Claim Rejections - 35 USC § 102/103—withdrawn

The rejection of Claim 12 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Brown et al. (US Patent 5,945,336) is withdrawn in view of the amendment to the claim introducing the limitation "interfering ribonucleic acid" and eliminating the "of the…type" language.

While Brown et al. teach an oligonucleotide comprising 15 to 60 nucleotides complementary to SEQ ID NO:21, Brown et al. do not teach an iRNA (i.e., an interfering RNA) complementary to SEQ ID NO:21 as now required by the claim.

Claim Rejections - 35 USC § 103—maintained

Claims 12–14, 16, 17, 45, and 47 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bailleul et al. (US Patent Application 2003/0166847); Agrawal and Tang (WO 94/01550); Taylor et al. (1999) *Drug Discovery Today* 4:562–567; Bennet et al. (US Patent 5,998,148); and Baracchini et al. (US Patent 5,801,154).

Response to Arguments

Applicants argue that the applied references fail to teach or suggest all the claim limitations. Applicants argue that none of the references teach interfering RNA. Applicants appear to argue that the hairpin antisense oligonucleotides taught by Agrawal et al. do not constitute interfering ribonucleic acids or would not provide for interfering activity when introduced into a cell. Applicants appear to argue that the motivation to combine was based on unforseen latent characteristics. Applicants argue that none of the references alone or in combination teach SEQ ID NO:21.

Applicant's arguments filed 12/21/06 have been fully considered but they are not persuasive.

As a preliminary matter, Applicants will note that the instant claim is drawn to an interfering RNA comprising at least 15 nucleotides complementary to "a corresponding portion of the sequence of SEQ ID NO:21" and which inhibits the expression of OB-RGRP.

The claims encompass both two-stranded (bimolecular) and single-stranded, self-complementary double stranded RNA molecules, or hairpins (pp. 8-9 of the specification contemplate such forms explicitly).

Hairpin RNAs of the requisite size and complementary such as those taught by Agrawal et al. would be expected to inherently provide interfering activity, as evidenced by the prior art. See, for example, Yu et al. (2002) *Proc. Natl. Acad. Sci.* 99:6047–6052, stating and showing that short hairpin siRNAs can function like siRNA duplexes to inhibit gene expression in a sequence specific manner.

Agrawal et al. teach self-complementary, short hairpin oligonucleotides containing RNA, and therefore, which would, absent convincing evidence to the contrary, inhibit gene expression in a sequence specific manner. The oligos of Agrawal et al. are iRNA inasmuch as they are double stranded RNA hairpins of 8-50 nucleotides in length. They meet the structural requirements of the limitations of the claims as defined by the instant specification (pp. 8-9).

The motivation to make and use self-complementary antisense molecules directed to the leptin receptor sequence of Bailleul et al. is based on the teaching by Agrawal et al., who show that self-complementary, or self-stabilized oligonucleotides are more resistant to nuclease degradation while providing for sequence-specific inhibition of gene expression. One of skill in the art would recognize the benefits of nuclease resistance given the combined teachings in the prior art cited herein noting the susceptibility of RNA/DNA nucleic acids to nuclease

degradation and the need to enhance resistance to degradation via modification or double-stranded design to produce more potent, more long-lasting gene suppression.

Bailleul et al. teach an 874-nucleotide target sequence, SEQ ID NO:2, sharing nearly 874 consecutive bases in common with instant SEQ ID NO:21 (see aligment Result 8 below). Further, Bailleul et al. teach and suggest making and using antisense RNA oligonucleotides directed to SEQ ID NO:2, referred to therein as leptin receptor gene-related protein, for the treatment of treatment of disease states related to leptin receptor gene-related protein, including cancer and disorders in energy metabolism (paragraph 192, for example). Any of these 15-20-nucleotide antisense oligonucleotides would comprise at least 15 nucleotides complementary to instant SEQ ID NO:21.

MPEP §2144 states in part that "It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant. *In re Linter*, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972)."

Accordingly, the instant claims stand rejected as obvious over the instantly cited references.

```
RESULT 8
US-09-993-756A-2
; Sequence 2, Application US/09993756A
; Publication No. US20030166847A1
;   GENERAL INFORMATION:
;        APPLICANT: Akerblom, Ingrid E.
;        TITLE OF INVENTION: A NOVEL HUMAN LEPTIN RECEPTOR
;                            GENE-RELATED PROTEIN
;        NUMBER OF SEQUENCES: 4
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: Incyte Pharmaceuticals, Inc.
;             STREET: 3174 Porter Drive
;             CITY: Palo Alto
;             STATE: CA
;             COUNTRY: U.S.
;             ZIP: 94304
;        COMPUTER READABLE FORM:
```

; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSEQ Version 1.5
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/993,756A
; FILING DATE: 05-No. US20030166847A1-2001
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/09/212,153
; FILING DATE:
; APPLICATION NUMBER: US/08/843,370
; FILING DATE:
; APPLICATION NUMBER: US 08/691,071
; FILING DATE: August 1, 1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Billings, Lucy J.
; REGISTRATION NUMBER: 36,749
; REFERENCE/DOCKET NUMBER: PF-0111-1 US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415-855-0555
; TELEFAX: 415-845-4166
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 874 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; IMMEDIATE SOURCE:
; LIBRARY: HNT2NOT01
; CLONE: 492703
; SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-09-993-756A-2

Query Match 78.1%; Score 869.6; DB 3; Length 874;
Best Local Similarity 99.4%; Pred. No. 8.9e-239;
Matches 869; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

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Qy          1 GTCTGGCTTGGGCAGGCTGCCCGGGCCGTGGCAGGAAGCCGGAAGCAGCCGCGGCCCCAG 60
              |||||||||||||||||||||||||||||||||||||||:||||||||||||||||||||
Db          1 GTCTGGCTTGGGCAGGCTGCCCGGGCCGTGGCAGGAAGCSGGAAGCAGCCGCGGCCCCAG 60

Qy         61 TTCGGGAGACATGGCGGGCGTTAAAGCTCTCGTGGCATTATCCTTCAGTGGGGCTATTGG 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TTCGGGAGACATGGCGGGCGTTAAAGCTCTCGTGGCATTATCCTTCAGTGGGGCTATTGG 120

Qy        121 ACTGACTTTTCTTATGCTGGGATGTGCCTTAGAGGATTATGGCGTTTACTGGCCCTTATT 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 ACTGACTTTTCTTATGCTGGGATGTGCCTTAGAGGATTATGGCGTTTACTGGCCCTTATT 180

Qy        181 CGTCCTGATTTTCCACGCCATCTCCCCCATCCCCCCATTTCATTGCCAAAAGAGTCACCTA 240
              |||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||
Db        181 CGTCCTGATTTTCCACGGCATCTCCCCCATCCCCCCATTTCATTGCCAAAAGAGTCACCTA 240

Qy        241 TGACTCAGATGCAACCAGTAGTGCCTGTCGGGAACTGGCATATTTCTTCACTACTGGAAT 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 TGACTCAGATGCAACCAGTAGTGCCTGTCGGGAACTGGCATATTTCTTCACTACTGGAAT 300

Qy        301 TGTTGTTTCTGCCTTTGGATTTCCTGTTATTCTTGCTCGTGTGGCTGTGATCAAATGGGG 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Db        301 TGTTGTTTCTGCCTTTGGATTTCCTGTTATTCTTGCTCGTGTGGCTGTGATCAAATGGGG 360

Qy        361 AGCCTGCGGCCTTGTGTTGGCAGGCAATGCAGTCATTTTCCTTACAATTCAAGGGTTTTT 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 AGCCTGCGGCCTTGTGTTGGCAGGCAATGCAGTCATTTTCCTTACAATTCAAGGGTTTTT 420

Qy        421 CCTTATATTTGGAAGAGGAGATGATTTTAGCTGGGAGCAGTGGTAGCACTTTATTCTGAT 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 CCTTATATTTGGAAGAGGAGATGATTTTAGCTGGGAGCAGTGGTAGCACTTTATTCTGAT 480

Qy        481 TACAGTGCATTGAATTTCTTAGAACTCATACTATCTGTATACATGTGCACATGCGGCATT 540
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 TACAGTGCATTGAATTTCTTAGAACTCATACTATCTGTATACATGTGCACATGCGGCATT 540

Qy        541 TTACTATGAAATTTAATATGCTGGGTTTTTTAATACCTTTATATATCATGTTCACTTTAA 600
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 TTACTATGAAATTTAATATGCTGGGTTTTTTAATACCTTTATATATCATGTTCACTTTAA 600

Qy        601 GAAAGACTTCATAAGTAGGAGATGAGTTTTATTCTCAGCAAATAGACCTGTCAAATTTAG 660
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 GAAAGACTTCATAAGTAGGAGATGAGTTTTATTCTCAGCAAATAGACCTGTCAAATTTAG 660

Qy        661 ATTATGTTACTCAAATTATGTTACTTGTTTGGCTGTTCATGTAGTCACGGTGCTCTCAGA 720
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        661 ATTATGTTACTCAAATTATGTTACTTGTTTGGCTGTTCATGTAGTCACGGTGCTCTCAGA 720

Qy        721 AAATATATTAACGCAGTCTTGTAGGCAGCTGCCACCTTATGCAGTGCATCGAAACCTTTT 780
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        721 AAATATATTAACGCAGTCTTGTAGGCAGCTGCCACCTTATGCAGTGCATCGAAACCTTTT 780

Qy        781 GCTTGGGGATGTGCTTGGAGAGGCAGATAACGCTGAAGCAGGCCTCTCATGACCCAGGAA 840
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        781 GCTTGGGGATGTGCTTGGAGAGGCAGATAACGCTGAAGCAGGCCTCTCATGACCCAGGAA 840

Qy        841 GGCCGGGGTGGATCCCTCTTTGTGTTGTAGTCCA 874
              ||||||||||:||||||||:| ||||||||||
Db        841 GGCCGGGGTGGWTCCCTCTTTKTTTTGTAGTCCA 874
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Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Louis V. Wollenberger whose telephone number is 571-272-8144. The examiner can normally be reached on M-F, 8 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Schultz can be reached on (571)272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Louis V. Wollenberger, Ph.D.
Examiner
Art Unit 1635

February 2, 2007

SEAN McGARRY
PRIMARY EXAMINER
1635